What we claim is:

1. A method for nuclear magnetic resonance (NMR) logging of a geologic formation comprising the steps of:
   a. providing a plurality of NMR measurements over a depth interval of the geologic formation;
   b. computing from the NMR measurements a plurality of porosity values corresponding to the depth interval of the geologic formation;
   c. processing the computed porosity values to detect abnormal formation pressure in a zone within the depth interval.

2. The method of claim 1, wherein the NMR measurements data is obtained from a logging-while-drilling NMR tool.

3. The method of claim 2, wherein the plurality of porosity values are obtained from one or more NMR T_1 relaxation curves.

4. The method of claim 1, wherein the depth interval of the geologic formation is dimensioned to contain multiple zones, including at least one normally pressured zone.

5. The method of claim 3, wherein the one or more T_1 relaxation curves is processed to extract the dominant T_1 relaxation modes, and the method further comprises providing estimates of the amounts of clay-bound water, free water, and hydrocarbons.

6. The method of claim 1, wherein the provided plurality of NMR measurements comprises one or both of T_1 and T_2 NMR measurements.

7. The method of claim 6 further comprising the step of obtaining at least one of electric, acoustic, and nuclear log data, and plotting the data as a function of depth to provide a normal compaction trend.

8. The method of claim 1, wherein NMR measurement data is collected by applying a saturation pulse and a readout sequence applied after a timed recovery delay.

9. The method of claim 8, wherein the time between applying a readout sequence and measuring an echo signal is about 0.5 ms.

10. The method of claim 8, wherein the recovery delay varies between about 1 and at least about 30 ms.

11. The method of claim 8, wherein the recovery delay varies between about 1 and at least about 1000 ms.

12. The method of claim 1, wherein an abnormally pressured zone is determined using NMR T_1-derived clay-bound water porosity and porosity versus pore pressure correlation information.

13. The method of claim 12, wherein the pressure within the abnormally pressured zone is determined using T_1-derived porosity and Eaton's pressure analysis method.

14. The method of claim 1, wherein calculating clay-bound water using NMR is performed according to a fixed cutoff method.

15. A method for nuclear magnetic resonance (NMR) logging of a geologic formation comprising the steps of:
    a. lowering a NMR logging tool into a borehole;
    b. conducting NMR measurements of at least two zones of the geologic formation, the measurements comprising either a T_1 or T_2 relaxation spectra or a combination thereof;
    c. estimating clay-bound water volumes associated with the at least two zones of the geologic formation;
    d. processing the estimated clay-bound water volumes to detect abnormal formation pressure.
16. The method of claim 15, wherein steps (a)-(d) are performed while drilling the borehole.
17. The method of claim 15, wherein an indication of an abnormal pressure in a borehole zone is provided to a human operator.

18. The method of claim 15 further comprising the step of determining a normal compaction trend.

19. An apparatus for nuclear magnetic resonance (NMR) logging of a geologic formation comprising:

means for providing a plurality of NMR measurements over a depth interval of the geologic formation;

means for computing from the NMR measurements a plurality of porosity values corresponding to the depth interval of the geologic formation; and

means for processing the computed porosity values to detect abnormal formation pressure in a zone within the depth interval.

20. The apparatus of claim 19, wherein the means for providing a plurality of NMR measurements comprises an NMR logging while drilling tool.

21. The apparatus of claim 19, wherein the NMR measurements comprise either a T_1 or T_2 relaxation spectra or a combination thereof.